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REMARKS

There are no amendments to the claims presented in this response. Claims 14-22 were previously cancelled pursuant to a restriction requirement. Claims 1-13 remain pending in the present application. The specification has been amended to recite an issued patent number. Applicants respectfully request reconsideration and allowance of the application.

Applicants would like to thank Examiner Ronnie Mancho for the courtesies extended to Applicants' attorney, Kevin Grzelak, during a telephonic interview conducted on May 4, 2006. During the interview claim 1, the Janky et al. patent and the rejection based on 35 U.S.C. §102(b) were discussed. Applicants' attorney pointed out that the sensors 81 and 83 cited by the Examiner in Janky et al. sense different objects in different locations, in contrast to Applicants' claimed invention. Additionally, section 5 of the Office Action and its recitation of MPEP §2114 was discussed, but Applicants' attorney pointed out that no rejection was made in the Office Action. While no explicit agreement was reached, the Examiner agreed to reconsider the rejection.

In the Office Action, claims 1-13 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,067,031 to Janky et al. For the reasons discussed during the telephonic interview and repeated below, Applicants respectfully traverse this rejection.

The Janky et al. patent discloses a system for monitoring operation and location of a moving first vehicle relative to a second vehicle. The system estimates a minimum separation distance between the two vehicles based on velocities of the two vehicles. As illustrated in FIG. 3 of Janky et al., a first vehicle 11 is equipped with an LD module 13 that monitors and reacts to vehicle-to-vehicle separation. The LD module 13 receives and analyzes LD signals from two or more LD signal sources and determines the present location vector and present velocity vector of the first vehicle 11. The LD module 13 includes a range and (optional) range rate determination module 16, referred to for convenience as a "ranging," which may act cooperatively with, or be part of, the LD signal receiver/processor 15, that determines the separation distance $d(t;1;2)$ between the first vehicle and a second vehicle that immediately precedes the first vehicle in the same traffic lane of the road. Optionally, the ranging module

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16 determines a velocity vector $v(t;2)$ of the second vehicle and/or a velocity difference vector $\Delta v(t;1;2)$ first vehicle relative to the second vehicle (see column 3, lines 13-23).

The first vehicle 11 in Janky et al. is equipped with first, second and third ranging modules 81, 83 and 85, respectively. As recited in column 9, lines 29-59 of Janky et al., the first ranging module 81 is mounted on the first vehicle 11 to illuminate a preceding second vehicle 41 or other object located to the front of the first vehicle. A second ranging module 83 is mounted toward the right side of the first vehicle 11 to illuminate vehicles located to the right of the first vehicle, such as a third vehicle 43 traveling in an adjacent parallel traffic lane on the road 12 in the same or opposite direction as the first vehicle for illustrative purposes. A third ranging module 85 is mounted toward the left side of the first vehicle 11 to illuminate vehicles located to the left of the first vehicle such as a fourth vehicle 45. Accordingly, the first, second and third ranging modules 81, 82 and 83, respectively, monitor different fields of view for detecting different vehicles or objects.

In contrast, Applicants' claimed invention, as recited in claim 1, is directed to a collision detection system that comprises first and second sensors and a controller. The first sensor senses an object in a field of view and measures a first range defined as the distance between the object and the first sensor. The second sensor senses the object in the field of view and measures a second range defined by the distance between the object and the second sensor. The controller processes the first and second range measurements and further estimates a crossing location of the object as a function of the first and second range measurements. Independent claim 14 recites a method of estimating a crossing location of an object that similarly measures range to an object with a first sensor and range to the object with a second sensor, wherein the first and second sensors are separate from each other, and estimates a crossing location of the object as a function of the range measurements from the first and second sensors.

In order to anticipate a claim, the prior art reference must teach each and every limitation of the claim. Nowhere does Janky et al. teach a collision detection system comprising first and second sensors for sensing an object in a field of view and measuring a

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first range defined as the distance between the object and the first sensor and the second range defined by the distance between the object and the second sensor. Nor does Janky et al. teach processing first and second range measurements to an object and estimating a crossing location of the object as a function of the first and second range measurements.

Instead, Janky et al. employs three separate ranging modules 81, 83 and 85, each of which determines distance between the first vehicle and other different respective vehicles (objects). In contrast to the Examiner's statements in the latest Office Action, the first ranging module 81 estimates distance between the first vehicle 11 and a preceding second vehicle 41, whereas the second ranging module 83 estimates the distance between the first vehicle 11 and a third vehicle on the right side of the vehicle, and the third ranging module estimates distance between the first vehicle 11 and a fourth vehicle 45 on the left side of the vehicle. Nowhere does Janky et al. teach multiple ranging sensors sensing distance from each sensor to the same object, such as a single vehicle.

Accordingly, the Janky et al. patent fails to disclose each and every limitation set forth in Applicants' claims, and therefore does not anticipate the claimed invention. Applicants therefore respectfully request that the rejection to claims 1-13 under 35 U.S.C. §102(b) as anticipated by Janky et al. be withdrawn.

Further, in the Office Action, the Examiner stated that the statements of intended use or field of use found in claims 1-13 such as, "estimating a crossing location as a function of...", "estimated relative to as location midway...", "determines first range rate...", "computes a mathematical square", "generating a first curve based on...", "computations of a plurality of measurements", "estimated by dividing", "computes a difference", "divides the difference", etc. clauses are essentially method limitations or statements of intended or desired use. The Examiner went on to say that these claims as well as other statements of intended use do not serve to patentably distinguish the claim structure over that of the reference.

As discussed during the interview, Applicants submit that the statements presented in claims 1-13 and cited by the Examiner recite functional limitations of the claim that must be considered and given patentable weight. The controller performs operations as programmed or

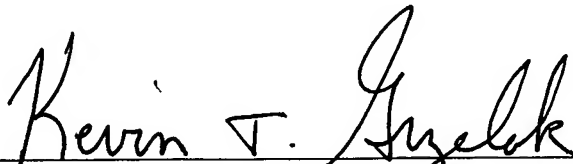
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otherwise configured to process data from the range sensors and to carry out and make decisions for the collision detection system. An essential feature of the collision detection system is in the first and second sensors arrangement in addition to the controller performing certain recited operation(s). The Examiner must give patentable weight to the limitations that recite the functional operations as set forth in MPEP §2173.105(g). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what is fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. Functional language in an apparatus claim requires that an anticipatory reference possess the capability of performing the recited function. *R.A.C.C. Industries Inc. v. Stun-Tech Inc.*, 49 USPQ2d 1793 (Fed. Cir. 1998) (“[I]n *Intel Corp. v. U.S. International Trade Commission*, 948 [sic, 946] F.2d 821, 832, 20 USPQ2d 1161, 1171 (Fed. Cir. 1991), this court interpreted functional language in an apparatus claim as requiring that an accused apparatus possess the capability of performing the recited function.”) The estimation performed by the controller is an essential element to the claim and must be considered.

By way of the foregoing discussion, Applicants have demonstrated that the claims define patentable subject matter and are in condition for allowance, which action is respectfully solicited. If the Examiner has any questions regarding patentability of any of the claims, the Examiner is encouraged to contact Applicants’ undersigned attorney at his convenience.

Respectfully submitted,

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Date


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